

a review of Multiplicity principle and  
emergence in memory evolutive systems by  
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Biological or social systems differ radically from material systems in that they have hierarchical organizations with interactions between components of various scales, they assemble and disassemble directed by overlapping internal regulations at various complexity levels and time-scales, they often give rise to the emergence of higher order processes. Most mathematical models proposed so far are based on the methods of theoretical physics, so that they are useful only when observables can be fixed once for all. The authors argue that category theory can provide a new tool for adequately dealing with such systems.

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**MSC:**

[92B05](#) General biology and biomathematics  
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